TECHNICAL REVIEW DOCUMENT
for
RENEWAL of OPERATING PERMIT 96OPAD160

Phillips Pipeline – Denver Terminal
Adams County
Source ID 0010015

Prepared by Matthew Burgett
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I. Purpose:

This document will establish the basis for decisions made regarding the applicable requirements, emission factors, monitoring plan and compliance status of emission units covered by the renewed operating permit proposed for this site. The original Operating Permit was issued June 1, 1999, and expires on June 1, 2004. This document is designed for reference during the review of the proposed permit by the EPA, the public, and other interested parties. The conclusions made in this report are based on information provided in the renewal application submitted September 19, 2003. Please note that copies of the Technical Review Document for the original permit and any Technical Review Documents associated with subsequent modifications of the original Operating Permit may be found in the Division files as well as on the Division website at http://www.cdphe.state.co.us/ap/Titlev.html.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

II. Description of Source

This facility is a petroleum marketing and storage terminal and is classified under the Standard Industrial Classification 5171. Gasoline products, Kerosene Turbine Fuel (KTF), and Diesel fuel are delivered through a pipeline, stored, and distributed through tank trucks. The equipment at this facility includes storage tanks, loading rack, vapor combustion unit (VCU), soil vapor extraction system, and a 25 MMbtu/hr boiler. Emissions also originate from tank cleaning activities, propane truck loading, equipment leaks, and portable maintenance flares (brought onsite to clear pipelines of fuel).

Based on the information provided in the renewal application, no changes have been made to any of the significant emission units.

Phillips Pipeline (PPL) did not request any changes to the insignificant activity list.

The loading rack and the gasoline storage tanks (except T501) are equipped with a vapor combustion unit to control VOC and HAP emissions and has potential uncontrolled emissions of VOC over 100 tons/yr. Therefore, the loading rack and gasoline storage tanks are subject to the compliance assurance monitoring (CAM) requirements.

The facility is located at 3960 East 56th Avenue, Commerce City, Colorado in Adams County. The area in which the plant operates is classified as attainment/maintenance for particulate matter less than 10 microns in diameter (PM10), ozone/VOC, and carbon monoxide (CO). Under that classification, all SIP-approved requirements for PM_{10}, VOC, and CO will continue to apply in order to prevent backsliding under the provisions of Section 110(l) of the Federal Clean Air Act. There are no affected states within 50 miles of the plant. The following Federal Class I designated areas are within 100 kilometers of the plant: Rocky Mountain National Park.

The summary of emissions that was presented in the Technical Review Document (TRD) for the original permit issuance has been modified to update the potential to emit (PTE) due to modifications made to the permitted emission units at this facility in the previous modifications, and changes due to new emission factors. Emissions (in tons per year) at the facility are as follows:

Pollutant	Potential to Emit
NO_X	40.35
CO	50.6
VOC	150.8
HAPS[1]	24 combined/9 single

[1]PPL is a synthetic minor source for HAPS.

Potential to emit is based on permitted or requested emissions. For the boiler, potential to emit is based on emission factors, design rate and 8760 hours per year of operation.

III. Discussion of Modifications Made

Source Requested Modifications

No changes were requested with the renewal application. The Division received a request to change the responsible official and mailing address on January 2,

2004. The source did not submit a CAM plan for the loading rack and gasoline storage tanks with the renewal application as required. The Division developed a CAM plan that PPL will need to review.

Other Modifications

Although the source has requested no modifications, the Division has included changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this renewal.

The Division has made the following revisions, based on recent internal permit processing decisions and EPA comments. These changes are as follows:

Page following Cover Page

- Monitoring and compliance periods and report and certification due dates are shown as examples. The appropriate monitoring and compliance periods and report and certification due dates will be filled in after permit issuance and will be based on the permit issuance date. Note that the source may request to keep the same monitoring and compliance periods and report and certification due dates as were provided in the original permit. However, it should be noted that with this option, depending on the permit issuance date, the first monitoring period and compliance period may be short (i.e. less than 6 months and less than 1 year).

- Added language specifying that the semi-annual reports and compliance certifications are due in the Division's office and that postmarks cannot be used for purposes of determining the timely receipt of such reports/certifications.

Section I - General Activities and Summary

- Condition 1.1 is revised to reflect the new attainment status for the area, and an updated facility description.

- Condition 1.4 was renumbered to Conditions 14 & 18.

- Condition 3.1 was modified to describe the PSD status of the source.

- Added a "new" Section 5 for compliance assurance monitoring (CAM).

- The emission units summary table was updated to reflect actual AIRS numbers, and the separation of T501 from the other gasoline tanks.

Section II - Specific Permit Terms

- Language is added to all relevant conditions requiring records to be maintained for Division inspection upon request.

- Updated TANKS 3 emission calculation requirement to TANKS 4 or higher version.

- Added a requirement to track annual HAP emissions from insignificant activities and included a one tpy limit per PS-Memo 97-1.

Section II.1: Units E001 - loading rack, gasoline storage tanks, vapor combustor unit (VCU)

- Added Table 1-1 to list individual storage tank information.

- Condition 1.7.3 modified to require PPL to monitor gasoline throughput on a daily basis.

- Added the CAM requirements as Condition 1.10.

Section II.2: Units E002, Additive and KTF/Diesel storage tanks

- Table 2-1 revised to include additional information.

Section II.3: Units E003 – Miscellaneous VOC sources

- Each point was separated into a separate table.

- Added language to Condition 3.1.2 to require records of the number of propane loading events.

- Revised condition 3.1.4 to include an emissions limit, fuel limit, and opacity limit from the appropriate Construction Permits. Require visible emission observations during flaring events. This Operating Permit conditions only apply when these portable flares are operated on site at the Denver Terminal.

Section II.4: Unit E004 - Fugitive VOC Emissions from Equipment Leaks

- Revised Table 4-1 to reflect current emission factors.

Section II.5: E005 – Boiler

- Revised the emission factors to reflect current AP-42 Factors.
- Included propane in the opacity compliance presumption language in condition 5.4.

Section III & IV: Language updated to current language.

1. Applicable Requirements –

An analysis was conducted on this facility to determine if it was one of the 28 listed sources (under the PSD rules of the Clean Air Act), which would require PSD review for emissions exceeding 100 tpy. Specifically, the storage capacity of the facility was totaled to see if it met the definition of: Petroleum Storage & Transfer Units with a Total Storage Capacity > 300,000 Barrels. There was some confusion about the definition of petroleum and whether it included gasoline, diesel, and KTF. Regardless, the total storage capacity including gasoline, diesel and KTF was 291,838 barrels. This is, therefore, not a listed source.

One tank (T501) at this facility is subject to NSPS K (an NSPS or NESHAP promulgated prior to August 7, 1980). Fugitive emissions associated with this tank should be counted toward major source status. Fugitive emissions from this tank are fairly small and will not make it a major PSD source.

PPL added an additional arm to the existing loading rack in 1998. This was considered a modification under NSPS, and subjected the equipment to the requirements of NSPS XX.

NSPS K applies to Tank T501. T501 is equipped with a floating roof for emissions control. All the other tanks are exempt from the NSPS K, Ka, and Kb requirements due to their installation dates. NSPS K requires a vapor recovery system if the true vapor pressure of the liquid being stored is greater than 11.1 psia. A floating roof is acceptable for true vapor pressures of 1.5 – 11.1 psia. The true vapor pressure can be determined using the maximum expected storage temperature based on the highest expected calendar-month average temperature (from control #9700140 in the Applicability Determinations Index of the EPA's website). The true vapor pressure for RVP 13 gasoline at 85ºF is 10.8 psi. The average temperature for Denver will be much less than 85ºF, thus a vapor recovery system is not required.

The 25 MMbtu/hr boiler was installed prior to 1972 (Grandfathered). This explains the lack of emission limits associated with the boiler.

2. **Emission Factors –** The emission factors from equipment leaks has been updated to reflect the factors listed in EPA's Protocol for Equipment Leak Emission Estimates, EPA-453/R-95-017, Table 2-3 (1995). The previous permit had listed emission factors from an older guidance document.

   The boiler emission factors have been updated to reflect the most recent emission factors from AP-42 1.4 (7/98). The NOx emission factor has decreased from 140 lb/mmscf to 100 lb/mmscf. The CO emission factor has increased from 35 lb/mmscf to 84 lb/mmscf.

The Division had considered requiring the source to conduct testing to verify the emission factors from, and control efficiency of, the VCU from gasoline throughput in the loading rack. The VCU was tested in 1994 and results showed a VOC emission factor of 5.4 mg/liter with 99.99% destruction efficiency. PPL is using a VOC emission factor of 30 mg/liter and 95% control. Bob Jorgenson of the APCD has reviewed this emission factor and control efficiency and decided that further testing should not be required. The NOx (4 mg/l) and CO (10 mg/l) emission factors for the VCU were based on the manufacturer's factors.